

ABSTRACT OF THE DISCLOSURE

The present invention relates to the use of a class of genes called oil
5 body protein genes that have unique features. The discovery of these features
allowed the invention of methods for the production of recombinant proteins
wherein a protein of interest can be easily separated from other host cell
components. The invention is further exemplified by methods for exploitation
of the unique characteristics of the oil body proteins and oil body genes for
10 expression of polypeptides of interest in many organisms, particularly plant
seeds. Said polypeptides may include but are not limited to: seed storage
proteins, enzymes, bioactive peptides, antibodies and the like. The invention
can also be modified to recover recombinant polypeptides fused to oil body
proteins from non-plant host cells. Additionally the invention provides a
15 method of using recombinant proteins associated with seed oil bodies released
during seed germination for expression of polypeptides that afford protection to
seedlings from pathogens. Finally, the persistent association of oil body
proteins with the oil body can be further utilized to develop a biological means
to create novel immobilized enzymes useful for bioconversion of substrates.